



UNITED STATES PATENT AND TRADEMARK OFFICE

Lee

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,885	04/11/2005	Hiroshi Sasaki	Q87416	4482

65565 7590 12/11/2007
SUGHRUE-265550
2100 PENNSYLVANIA AVE. NW
WASHINGTON, DC 20037-3213

EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
----------	--------------

1796

MAIL DATE	DELIVERY MODE
-----------	---------------

12/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/530,885

Applicant(s)

SASAKI, HIROSHI

Examiner

Michael J. Feely

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 1-4 and 6-12 are pending.

Response to Amendment

1. The rejection of claims 1-4, 9, and 10 under 35 U.S.C. 102(e) as being anticipated by Xu (US 2004/0077745) has been overcome with a certified translation of the foreign priority document.
2. The rejection of claims 6-8 under 35 U.S.C. 103(a) as being unpatentable over Xu (US 2004/0077745) in view of Igarashi et al. (JP 11-140279) has been overcome with a certified translation of the foreign priority document.
3. The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Xu (US 2004/0077745) in view of Igarashi et al. (JP 11-140279) has been rendered moot by the cancellation of this claim.
4. The rejection of claims 1-4 and 9-12 under 35 U.S.C. 102(a/e) as being anticipated by Takamatsu et al. (US 2003/0062125) has been overcome by amendment.
5. The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Takamatsu et al. (US 2003/0062125) in view of Igarashi et al. (JP 11-140279) has been rendered moot by the cancellation of this claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamatsu et al. (US 2003/0062125) in view of Igarashi et al. (JP 11-140279).

Regarding claims 1-4 and 6-12, Takamatsu et al. disclose: **(1)** a cationic polymerization type composition (Abstract) comprising:

(A) component: a monofunctional oxetane compound containing one oxetanyl group in the molecule thereof (*claim 4*; paragraphs 0034-0078) *and/or*

(B) component: a compound containing two or more cationic ring-opening polymerizable cyclic ether residues in the molecule thereof (*claim 4*; paragraphs 0032-0033);

(C) component: a cationic polymerization initiator having latency (paragraphs 0081-0084); and

(D) component: a metal oxide fine particle having a particle size of from 1 to 1,000 nm ($0.001\mu - 1\mu$) (paragraphs 0112-0116 and 0172);

(2) wherein the component (D) is at least one member selected from silica, titanium oxide, aluminum oxide, zirconium oxide, zinc oxide, cerium oxide, antimony oxide, tin oxide, and antimony-doped tin oxide (paragraphs 0112-0116 and 0172); **(3)** wherein the component (D)

is silica, titanium oxide, aluminum oxide, zinc oxide, or tin oxide (paragraphs 0112-0116 and 0172); **(4)** wherein the component (D) is silica (paragraphs 0112-0116 and 0172);

(9) wherein the component (C) is an onium salt having light latency (paragraphs 0081-0084); **(10)** wherein the component (C) is an onium salt containing, as an anion residue, one member selected from SbF_6^- , AsF_6^- , and $\text{B}(\text{C}_6\text{F}_5)_4^-$ (paragraphs 0081-0084);

(11) wherein an organosilicon compound is added as a component (E) (paragraphs 0117-0123); **(12)** wherein the organosilicon compound to be used as the component (E) contains a cationic polymerizable group (paragraphs 0017-0123).

Takamatsu et al. disclose that their cationic-polymerizable compound (A) can be an epoxy compound, an oxetane compound, or a combination of epoxy and oxetane compounds (*see: claim 4; paragraphs 0034-0078*). The oxetane compounds preferably feature 1 to 4 oxetane ring(s) (*see: paragraph 0035*). Particular examples of oxetane compounds featuring one oxetane ring include those: **(6)** wherein at least a part of the component (A) is a monofunctional oxetane compound containing an aromatic group in the molecule thereof (*see: paragraph 0042*). Particular examples of epoxy compounds include those: **(7)** wherein at least a part of the component (B) is an epoxy compound containing two or more glycidyl ether residues and aromatic groups in the molecule thereof (*see: paragraphs 0032-0033*); and **(8)** wherein at least a part of the component (B) is an epoxy compound containing two or more glycidyl ether residues in the molecule thereof, which is selected from a substituted or unsubstituted bisphenol resin glycidyl ether, a substituted or unsubstituted novolak resin glycidyl ether, a substituted or unsubstituted biphenol resin glycidyl ether, and a substituted or unsubstituted naphthalene resin glycidyl ether (*see: paragraphs 0032-0033*). However, Takamatsu et al. fail to explicitly

disclose: *(1) wherein the component (A) is blended in an amount of from 10 to 80 parts by mass based on 100 parts by mass of the total sum of the polymerizable material comprising the component (A) and the component (B).*

Igarashi et al. disclose an analogous composition featured a blend of an oxetane and an epoxy compound (*see: Abstract*). They disclose a range that overlaps the instantly claimed range, wherein these amounts are selected to achieve a balance of flexibility and hardness in the cured material (*see: Abstract; paragraph 0024*). The teaching demonstrates that this ratio of specific materials is a result-effective variable.

In light of this, it has been found that, “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation,” – *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); and “A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation,” – *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to blend from 10 to 80 parts by mass of component (A) based on 100 parts by mass of the total sum of the polymerizable material comprising the component (A) and the component (B), as taught by Igarashi et al, in the composition of Takamatsu et al. because Igarashi et al. disclose a range that overlaps the instantly claimed range and demonstrates that this ratio of specific materials is a result-effective variable. The relative amounts of these materials are selected to achieve a balance of flexibility and hardness in the cured material.

Response to Arguments

8. Applicant's arguments filed October 2, 2007 have been fully considered but they are not persuasive.

(Argument 1) Applicant first argues that Takamatsu et al. do not teach or suggest the combination of claimed component (A), (B), (C), and (D). Specifically, Applicant argues that the *Examples* of Takamatsu et al. do not feature this combination (*see pages 7-8 of the response*).

It should be noted that, "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain," – *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). Furthermore, it should be noted that non-preferred and alternative embodiments constitute prior art – *see MPEP 2123*.

It should also be noted that the *claimed* invention of Takamatsu et al. (*see claims 1 & 4-7*) contemplate a combination of: oxetane compound (*see claims 4 & 1*), an epoxy compound (*see claims 4 & 1*), a cationic polymerization initiator (*see claim 1*), and fine particulate inorganic filler (*see claims 6 & 1*). Turning to the Specification, the oxetane compound is preferably one having 1 to 4 oxetane ring(s) (*see paragraph 0035*), wherein the compounds featuring one oxetane ring include those featuring an aromatic group (*see paragraphs 0036-0042*). The epoxy compound is preferably one have one or more epoxy rings (cyclic ether groups), as set forth in the instant claims (*see paragraphs 0032-0033*). The initiator overlaps with the instantly claimed initiators (*see paragraphs 0079-0097*), and the inorganic filler overlaps with the instantly claimed metal oxide fine particles (*see paragraphs 0112-0116*).

(Argument 2) Applicant then argues that Igarashi et al. fails to give proper support for the instantly claimed relative amounts of oxetane compounds and epoxy compounds. Specifically, Igarashi et al. do not disclose instantly claimed component (D), and the combined teachings do not teach or suggest the effect of component (D) such that the residual stress is reduced at the time of curing and the cured product has excellent hardness and abrasion resistance (*see page 10 of the response*). This argument appears to imply that the references are not analogous.

It should be noted that the primary reference satisfies the material limitations of instantly claimed component (D), along with the material limitations of instantly claimed components (A), (B), and (C).

In response to applicant's argument that Igarashi et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the supporting reference of Igarashi et al. falls within the field of applicant's endeavor. They even contemplate the use of inorganic bulking agents (*see paragraph 0026*).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e., the residual stress is reduced at the time of curing and the cured product has excellent hardness and abrasion resistance*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, the combined teachings satisfy all of the material and chemical limitations of the instant invention. It has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). In light of this, the combined teachings would have been expected to yield these same properties because they satisfy all of the material and chemical limitations of the instant invention.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely
Primary Examiner
Art Unit 1796

December 3, 2007

MICHAEL FEELY
PRIMARY EXAMINER